Neurological Digest.

CURRENT ANATOMY, PHYSIOLOGY AND PATHOLOGICAL ANATOMY OF THE NERVOUS SYSTEM.

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ON PILO-MOTOR NERVES, BY LANGLEY AND SHERRINGTON.

The nerve fibres, stimulation of which causes contraction of the erectores pilorum, are designated by the authors as "pilo-motor" fibres on the analogy of "vaso-motor" fibres. These fibres are present probably in all animals in which horipilation takes places under the influence of intense emotions. Sherrington experimenting on monkeys finds that the pilo-motor nerves for the face and head pass from the spinal cord in the anterior roots of the third and fourth thoracic nerves principally, to the sympathetic chain, ascending the cervical sympathetic and becoming connected with the cells in the superior cervical ganglion. Stimulation of the sympathetic causes an erection of the hair on the same side of the forehead, front half of scalp, temple, cheek, and upper part of whisker, and on section of the sympathetic the hairs of these parts lie flatter than normal while the hair on the normal side becomes erect under the natural stimulus. The pilo-motor nerves for the lower extremity pass from the twelfth thoracic to first, second and third lumbar. Langley's investigations on cats lead him to believe that the pilo-motor nerves leave the spinal cord to run to the sympathetic chain on each anterior root from the fourth thoracic nerve to the third lumbar. The fibres from the third to the seventh thoracic inclusive ascend in the cervical sympathetic, become connected with the superior cervical ganglion and supply the hairs of the region between the ear and eye, skin on the back of the head and neck. The fibres from the other thoracic nerves supply the back and those from the lumbar as far as the third, supply the tail. Stimulation of the spinal nerve or sympathetic chain gives unilateral effects except in the tail, where they are bilateral. —"Journal of Physiology," 1891, Vol. xii., No. 3.

In the "Journal of Physiology," Vol. xii., No. 3, Dr. W. Hale White gives the results of his experiments on rabbits, in order to determine the areas, irritation of which will give rise to increase of temperature, a continuation of a former publication in the same journal, Vol. xi., No. 1. The conclusions he arrives at are as follows:

1. The normal rectal temperature of a rabbit is 101° F.–103° F.
2. Neither an anæsthetic nor an operation affects the temperature much, unless some special part of the brain is damaged.
3. Lesions of the corpus striatum, if not large enough to give rise to shock and hemorrhage, cause a considerable rise of temperature.
4. Lesions of the septum lucidium also cause a rise of temperature.
5. Lesions of the optic thalamus do not alter the temperature.
6. Lesions of the white matter around the corpus striatum and optic thalami do not cause a rise of temperature.
7. Lesions of the cerebellum do not alter the temperature.
8. Lesions of the anterior part of the upper surface of the cerebral cortex either do not alter the temperature or the alteration is very slight.
9. Lesions of the posterior part of the upper surface of the cerebral cortex may cause irregular rises of temperature, which are quickly produced and last only a short time. Sometimes there are several rises and falls after one operation.
10. Lesions of the crus cerebri cause a considerable rise of temperature.

He explains the rise of temperature that resulted after transverse section of the anterior part of the optic thalamus recorded by Ott. ("Therapeutic Gazette," Sept. 15, 1887), by showing that lesions of the anterior part of the thalamus must if at all extensive, result in injury to some part of the corpus striatum.

Dr. P. F. Spaink in his inaugural dissertation (Jena, 1890) has given the results of some experiments made on rabbits with a view to determine the relations between the administration of alcohol and the development of multiple neuritis or of at least puerperal neuritis. He divided his rabbits into five lots, after first selecting one from each group as a control animal. Then alcohol was administered through a tube passed into the stomach and with the food. Some of the rabbits took an immense quantity of alcohol extending over a period of three or four months before the phenomena began to present themselves, while others succumbed very rapidly and with a smaller quantity. During the time of the experiments symptoms of poisoning, as diminution of weight, stupor, weakness, tremor of the tongue and buccal mucous membrane, and often general tremor and a condition like delirium tremens was present. The corneal reflex disappeared before the ciliary. After death the experimenter paid little attention to the parts other than the peripheral nerves. In the nerves examined, such as to auricular, tibial, vagus, etc., the evidences of degeneration in the medullary sheaths, as is frequently seen and described, were found. In the axis cylinder, moreover, was found a condition which the author says is as yet unknown in the literature. The axis cylinders were wound spirally on their continuity, or corkscrew-like, and in some cases they were in knots. The author inclines to think that this condition is pathological.

ON THE TOPOGRAPHY OF THE NUCLEAR CHANGES IN AMYOTROPHIC LATERAL SCLEROSIS.

Dr. W. Muratoff (Neurolog. Centralbl., No. 17, 1891). The author gives the results of his anatomical investigations in three cases of amyotrophic lateral sclerosis. The changes in the gray substance were atrophy of the principal nucleus of the hypoglossal and of the root of the hypoglossal. Roller's nucleus intact. The posterior nucleus of vagus somewhat atrophied. Nucleus ambiguus normal. Glosso-pharyngeal nucleus normal. Facial nucleus in one case distinctly atrophied, in the other two, very much less so. Atrophy of knee and fibres of the facial where it bends over the abducens nucleus. Abducens nucleus normal. In one case the motor nucleus of the trigeminus was somewhat atrophied. No change in the motor-oculi nucleus.

The changes in the white substance were sclerosis in the entire extent of the pyramids. Some degeneration at the ventral border of substantia nigra of Soemmering. The change in the posterior columns was not very distinctly marked but always present, particularly in the case that had such marked changes in the nucleus of the twelfth nerve. And in a case of the disease where the nucleus of the twelfth